

Remarks/Arguments

The Final Office Action of April 30, 2004 and the references cited therein have been carefully studied and reviewed, and in view of the foregoing Amendment and following representations, reconsideration is respectfully requested.

The written description has been amended to provide antecedent basis for terminology used in claim 13. Such terminology is clearly supported by the original figures and , as such, does not constitute new matter. Accordingly, it is respectfully requested that the objection to the specification under 37 CFR 1.75(d)(1) be withdrawn.

Concerning the rejection of claim 13 under 35 USC 112, second paragraph, claim 13 has been amended to obviate the inconsistency between the words “load lock”, “load-lock” and “loadlock”. Regarding the Examiner’s criticism of lines 16 – 18, the Examiner was correct in noting that Applicants intended to also claim the process chambers as being disposed in a side-by-side relationship, and the claim has been amended accordingly to correct the obvious word processing error. However, the Examiner’s criticism of the word “independently” is not understood. Claim 13 does not recite that the movement of the robot arm is independent of the movement of the robot Ra – the robot arm is, of course, a part of the robot Ra. Rather, claim 13 makes it clear that the various movements of the robot arm (linearly horizontally, vertically and rotationally) can be carried out independently of each other, as is clear from the arrows in Figs. 3 and 7. See Applicants’ remarks accompanying the last Amendment

stating that the “robot arm that has three degrees of independent movement”. This is in contrast to other arrangements, known in the robotics art per se, in which, for example, the rotational movement of a robot arm about some axis is tied to translational movement of the arm. For these reasons, it is also respectfully requested that the Examiner withdraw the rejection of claim 13 under 35 USC 112, second paragraph.

Finally, claim 13 has been amended so as to even further patentably distinguish the present invention over the references to Muka (USP 6,062,798) and Wagner et al. (USP 6,391, 377).

More specifically, claim 13 sets forth that a number of the process chambers 32a (or 32b in the embodiment of FIG. 4), and a number of corresponding load lock chambers 34a (or 34b), are disposed side-by-side as oriented parallel to one another at each of first and second sides of the transfer chamber 30a. Also, these first and second sides of the transfer chamber 30a, at which the process chambers and load lock chambers are connected, are claimed as extending in planes, respectively, that are parallel to one another.

Thus, claim 13 sets forth semiconductor device manufacturing equipment which is fundamentally different from the circumferential cluster-type systems of FIGS. 5A, 5B of Muka and FIG. 6 of Wagner et al.

Muka does disclose semiconductor device manufacturing equipment in which a transfer chamber 104 has first and second sides that are parallel to each other.

However, unlike Applicants' invention of claim 13, only one process chamber, e.g., at G, is connected to the transfer chamber 104 at a first side of the chamber across from the side at which a load lock chamber 108 is connected. Likewise, only one load lock chamber 108 is connected to the transfer chamber 104 at any one side of the chamber. In addition, the process chambers 102 can not be reasonably considered as being oriented in parallel as disposed side-by-side. Rather, the chambers 102 are oriented at angles of 60 degrees relative to each other as disposed radially about transfer chamber 104. Thus, the circumferential cluster-type of system disclosed by Muka is subject to the drawbacks and limitations described in par. [0035] of Applicants' original specification.

Wagner et al. also disclose a circumferential cluster-type piece of semiconductor device manufacturing equipment (FIG. 6). Wagner et al. teach that if the stroke of the wafer support is not great enough to access all of the chambers disposed about the transfer chamber 70, that the robot may be made mobile in the x-y plane shown in FIGS. 7, 8a, 8b.

However, even assuming, *arguendo*, that one of ordinary skill in the art would have been motivated to have modified the robot of Muka in view of the above-described teachings of Wagner et al., the resulting combination would still not meet claim 13 as such a resulting combination would still be subject to the deficiencies of the cluster arrangement of Muka discussed above.

Accordingly, early reconsideration and allowance of the claims are respectfully requested.

Respectfully submitted,

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Date: June 24, 2004